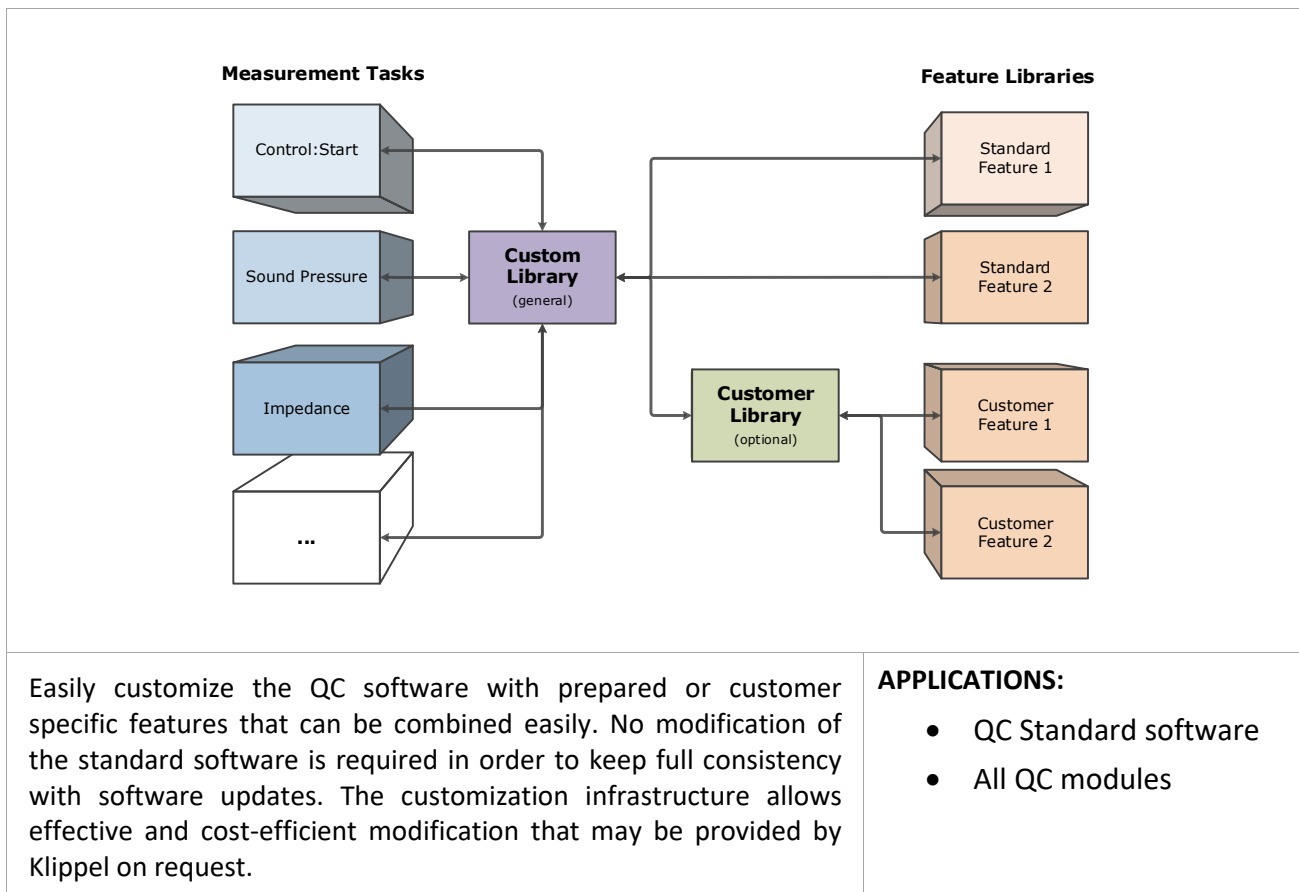


Specification of the KLIPPEL ANALYZER SYSTEM (QC Version 6, dB-Lab 210;
Document Revision 1.6)

FEATURES	BENEFITS
<ul style="list-style-type: none"> • General infrastructure for customizing standard Klippel QC tasks • Several features can be combined independently • Customization code is encapsulated in dedicated feature libraries • May be created & edited by the user (with prog license) or implemented by Klippel 	<ul style="list-style-type: none"> • Customized features working in conjunction with standard QC tasks • Full consistency with standard software and better update compatibility • Include and combine specific custom features with minimal time/cost effort



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1 Overview

<p>Summary</p>	<p>The custom library infrastructure allows easily customizing standard measurement tasks by integrating arbitrary external feature libraries. These libraries use a common interface which allows including external code without actually modifying the source code of the standard QC modules (tasks). Specific features are implemented in individual feature libraries that can be linked into standard task scripts easily.</p>																									
<p>Principle</p>	<p>Most measurement tasks that can be added to the test sequence provide an interface to the custom library. This library acts as a link between the standard measurement task and individual feature code that is available in external feature libraries.</p>																									
<p>Activation / Installation</p>	<p>Default features are automatically installed and may be activated using the <i>Feature Library Selector</i> tool which is available during QC Installation or directly from the QC Start software (Tools/Feature Library Selector). Features (default and custom) can be combined freely. Customer specific features must be installed separately before they can be activated while standard features are installed with the QC software.</p> <div data-bbox="443 1464 1393 1749" style="border: 1px solid black; padding: 5px;"> <p>QC System Feature Library Selector</p> <p>The table below lists all available and all currently activated custom features. Click on the checkboxes to switch on/off or update features.</p> <p>Click Here to Refresh Feature List</p> <table border="1"> <thead> <tr> <th>Feature Name</th> <th>State</th> <th>Active</th> <th>Available</th> <th>Info</th> </tr> </thead> <tbody> <tr> <td>Batch Execution</td> <td><input checked="" type="checkbox"/></td> <td>5.0</td> <td>5.0</td> <td>Execute batch files after test results are available</td> </tr> <tr> <td>Resonance from SPL</td> <td><input checked="" type="checkbox"/></td> <td></td> <td>5.0</td> <td>Extract resonance frequency from peak in sound pressure frequency response</td> </tr> <tr> <td>Serial Number Validation</td> <td><input checked="" type="checkbox"/></td> <td></td> <td>5.0</td> <td>Check entered serial numbers for a user-defined prefix</td> </tr> <tr> <td>Text File Data Logging</td> <td><input type="checkbox"/></td> <td></td> <td>5.0</td> <td>Export single value and curve results to text file</td> </tr> </tbody> </table> <p>Click here to open feature library reference</p> </div> <p>Every module additionally offers a general multi-purpose custom user parameter for certain features that require parameter input.</p>	Feature Name	State	Active	Available	Info	Batch Execution	<input checked="" type="checkbox"/>	5.0	5.0	Execute batch files after test results are available	Resonance from SPL	<input checked="" type="checkbox"/>		5.0	Extract resonance frequency from peak in sound pressure frequency response	Serial Number Validation	<input checked="" type="checkbox"/>		5.0	Check entered serial numbers for a user-defined prefix	Text File Data Logging	<input type="checkbox"/>		5.0	Export single value and curve results to text file
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<p>Requirements</p>	<ul style="list-style-type: none"> • QC Standard software (from software version 3.0) or • QC in R&D framework (from dB-Lab 210) 																									

2 Available Standard Feature Libraries

<p>Batch Execution <i>batch_exe.flib.klb</i></p>	<p>Overview</p> <ul style="list-style-type: none"> execute batch files at the end of a test when all test results and the overall verdict are available Important test parameters (DUT serial number, database path, start time etc.) are supplied as environmental variables to allow conditional batch execution and to supply additional test information <p>Task Parameters</p> <ul style="list-style-type: none"> ExecBatAfterTest - file path of batch file to be executed ExecBatSilent - execute batch file in background ExecBatWait - wait for completion ExecBatAfterLog - execute batch file after data logging
<p>Data Logging to Text File <i>curveLog.flib.klb</i></p>	<p>Overview</p> <ul style="list-style-type: none"> extends the standard data logging output of the QC software (kdbx & summary log) with direct <i>ASCII</i> file export selected results and corresponding limits are exported to tab separated value files directly import measured data into third party software (e.g. spreadsheet, statistics) <p>Task Parameters</p> <ul style="list-style-type: none"> TxtLogTargetDir - target folder for text data logging (static/dynamic, rel/abs); activates text logging TxtLogCurveFileName - file name pattern for curve output TxtLogValueFileName - file name pattern for single value output TxtLogCurveList - list of curves to be exported (default: all) TxtLogValueList - list of single values to be exported TxtLogHideHeader - do not use header in output files TxtLogPrecision - numerical precision of exported data
<p>Serial Number Validation <i>validateSN.flib.klb</i></p>	<p>Overview</p> <ul style="list-style-type: none"> checks the entered serial number. It is comparing it to a user definable prefix. If the prefix is not matching the beginning of the serial number, it is blocking the measurement. A message box offers to retry entering a valid serial number. In case of a second fail, the test will finish (logout). <p>Task Parameters</p> <ul style="list-style-type: none"> validateSN_Prefix - required prefix for any serial number used in test validateSN_Length - required number of serial digits validateSN_Enable - activates/deactivates feature
<p>Resonance from SPL <i>calc_SPL_resonance.flib.klb</i></p>	<p>Overview</p> <ul style="list-style-type: none"> Extract resonance frequency from peak in sound pressure frequency response or spectrum Limits / verdicts added to SPL, SPL-IMP, SAN tasks <p>Task Parameters</p> <ul style="list-style-type: none"> SPLRes_Enable - enables the feature

	<ul style="list-style-type: none"> • SPLRes_fmin - defines the bandwidth max SPL search • SPLRes_fmax - defines the bandwidth max SPL search • SPLRes_Lim_min - limits for target max SPL value • SPLRes_Lim_max - limits for target max SPL value • SPLRes_fLim_min - limits for target resonance frequency range • SPLRes_fLim_max - limits for target resonance frequency range
<p>Square Wave Test Stimulus <i>square_wave.flib.klb</i></p>	<p>Overview</p> <ul style="list-style-type: none"> • Standard sine sweep signal is replaced by square wave sweep <p>Task Parameters</p> <ul style="list-style-type: none"> • Square_Enable - enables the feature
<p>Stepped Sine Sweep Test Stimulus <i>step_sine.flib.klb</i></p>	<p>Overview</p> <ul style="list-style-type: none"> • Standard continuous logarithmic sine sweep signal of <i>Sound Pressure</i> task is replaced with a discrete stepped sine sweep signal <p>Task Parameters</p> <ul style="list-style-type: none"> • stepSineEnable - enables the feature • stepSineMinCycles - minimum number of cycles per frequency step • stepSineMinTime - minimum duration of each step (in s)
<p>Sequence Control <i>seq_ctrl.flib.klb</i></p>	<p>Overview</p> <ul style="list-style-type: none"> • provides a basic test sequence control infrastructure for skipping or repeating measurement steps in a task sequence • skip and repeat may be interactive (message box) or automatic <p>Task Parameters</p> <ul style="list-style-type: none"> • SeqCtrl_SkipSilent - always skip the task • SeqCtrl_AskSkipMsg - message shown in skip dialog • SeqCtrl_AskRepeatMsg - message shown in repeat dialog • SeqCtrl_RepeatsIfFail - number of task repetitions if FAIL • SeqCtrl_AskRepeatIfFailMsg- message shown in repeat dialog (FAIL) • SeqCtrl_OkMsgIfFail - message shown in dialog after FAIL • SeqCtrl_SkipSilentInLimitCalib - skip limit calibration for selected task

3 General Parameters (Setup)

PARAMETER GROUP “CUSTOMIZATION” (FOR CONTROL AND TASK SCRIPT)	
Customizations	This check box parameter activates/deactivates the custom library infrastructure individually for every task. If this parameter is deactivated the corresponding task will show standard behavior.
Parameters	This is a multi-purpose parameter list to provide a basic user interface for feature properties. The string matrix can be filled with an arbitrary number of lines, each containing one custom parameter. It may contain various parameters related to different feature libraries in parallel. This parameter is used for all feature parameters that do not affect limit/reference data validity.
Setup	This multi-purpose parameter is comparable to custom “Parameters”, but it is used to define/modify properties which potentially invalidate limits or reference DUTs.

Find explanations for symbols at:

<http://www.klippel.de/know-how/literature.html>

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